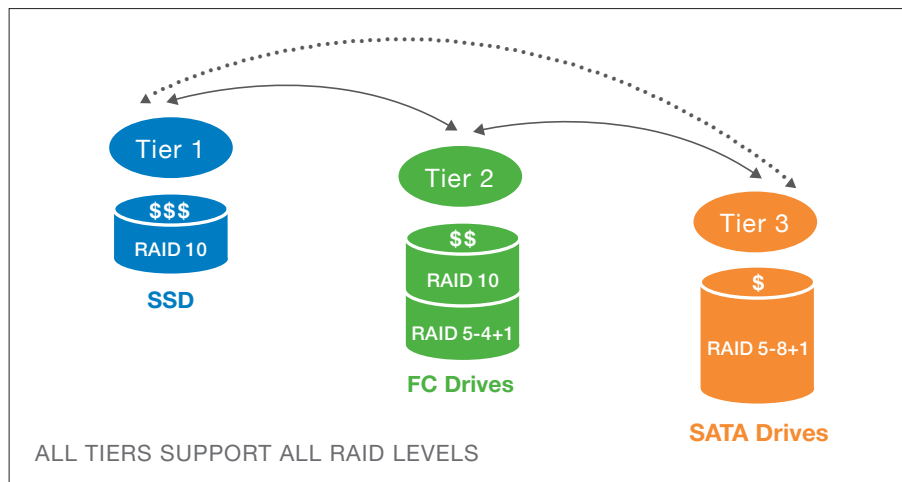


## STORAGE CENTER™ DATA PROGRESSION™

### Delivering On the Promise of Tiered Storage

Tiered storage solutions promise to help companies lower storage costs by storing less important data on less costly disks. But the hidden costs of data classification and the manual movement of data between tiers, along with the purchase and integration of multiple point products, quickly obliterates any potential savings. Compellent's patented, intelligent and automated Data Progression technology delivers on the promise of tiered storage.



*Automated Tiered Storage: Data Progression automatically classifies and migrates data to the optimum tier of storage, retaining frequently accessed data on high performance storage and storing infrequently accessed data on lower cost storage.*

### Compellent Saves Time and Money With Automated Tiered Storage

Data Progression reduces overall storage costs up to 74 percent by classifying and moving data at the block-level between tiers of storage based on frequency of access. This complete Automated Tiered Storage solution eliminates time consuming data classification and the repetitive, manual transferring of data between tiers.

**Spend Less, Store More.** Store inactive data on lower cost, high capacity drives, increasing the performance of Tier 1 resources while reducing overall costs.

**Reduce Administrative Time.** Eliminate time-consuming manual data classification and data movement by fully automating tiered storage processes. Automatically place active blocks on the preferred tier and the fastest track of every drive.

**Improve Business Continuity.** Increase business continuity and performance by storing up to 8 times more Replays (snapshots) on lower cost, higher capacity drives, enabling more recovery points that can be kept online longer.

### The Industry's Only SAN with Automated Tiered Storage

#### KEY BENEFITS

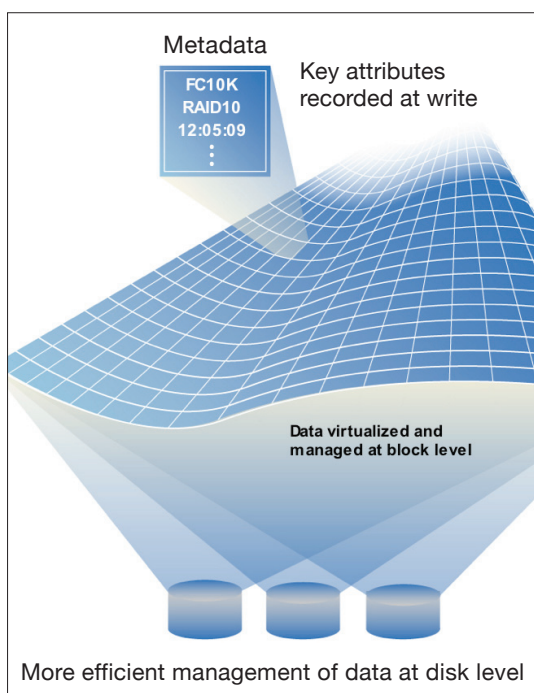
- » Reduce disk expenditures up to 74%
- » Eliminate manual data classification
- » Eliminate manual data movement between tiers
- » Easily add SSD into existing Fibre Channel enclosures without downtime
- » Start with as few as two SSD data drives, reserving them for active data
- » Improve business continuity – store up to 8 times more Replays (snapshots) at no additional cost
- » Dramatically increase performance by moving inactive data off Fibre Channel drives
- » Automatically reduce power and cooling costs
- » Automate tiered storage within every drive with Fast Track

Once created, data is rarely accessed after 30 to 90 days. In fact, storage analysts state that up to 80% of all stored data is inactive.

## PRODUCT FEATURES

### Dynamic Block Architecture Enables Intelligent Data Movement

The foundation of Compellent's Automated Tiered Storage patent is our unique Dynamic Block Architecture. Storage Center records and tracks specific information about blocks of data, including time written, time accessed, frequency of access, associated volume, RAID level, and more. Data Progression utilizes all of this metadata, or "data about the data" to automatically migrate blocks of data to the optimum storage tier based on usage and performance, unlike traditional systems that move entire files.



- » Metadata accurately determines ideal data placement
- » Smart movement between tiers based on frequency of access
- » Intelligent block migration automatically migrates inactive portions of large files to lower-cost disk
- » Enable migration for a complete volume for specific periods of time
- » Volumes and files are stored across technology and RAID levels based on performance and redundancy attributes

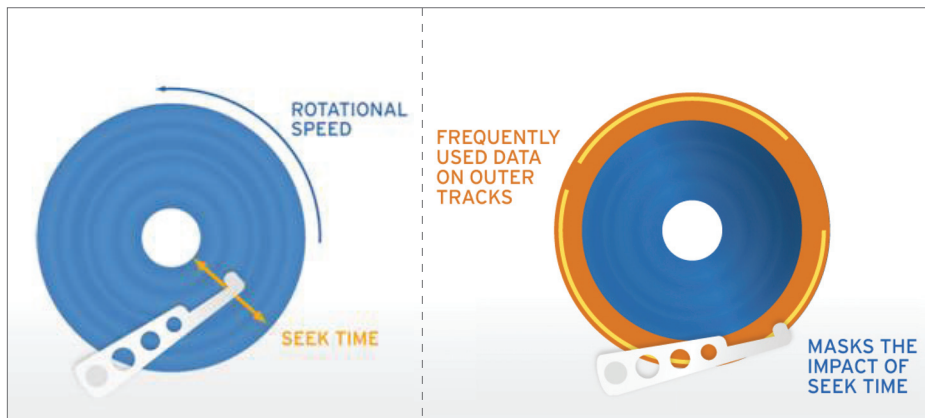
Dynamic Block Architecture: *Data Progression utilizes the "metadata" to intelligently migrate data at the block-level, rather than moving entire files or volumes like traditional systems.*

### Multiple Storage Tiers Through Technology Independence

With Compellent's standards-based, modular architecture, storage tiers can utilize any technology and scale to any capacity. This independence allows you to mix and match disk drives, using the right blend for each tier. When new drive technologies become available, simply insert the drive into Storage Center without the hassle of downtime or the expense of an entirely new system.

- » Support for all existing and future drive technologies, drive capacities and spindle rates, in any combination
- » Add drives, enclosures and controllers online without downtime
- » Automatically adjusts tiers to accommodate new technologies without manual intervention

- » Storage tiers are defined by disk drive type and rotational speed, with additional sub-tiers further delineated by RAID levels 0, 5 and 10
- » Unlimited capacity growth within each tier
- » Add Fast Track to optimize data placement on every drive within each tier



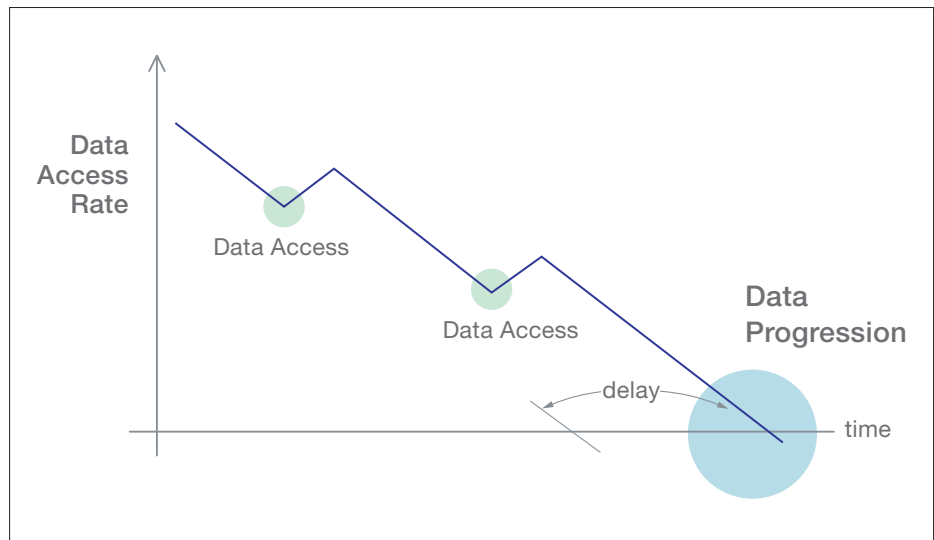
Improve Performance in Every Drive: *The combination of Fast Track and Data Progression boosts the performance of every drive and reduces the total number of drives required by up to 30 percent.*

## Automated Data Classification and Movement

Data Progression combines automated classification of data and block-level migration to allow organizations of all sizes to easily implement an Automated Tiered Storage solution in just minutes. By simplifying and automating the tiered storage process, companies can achieve the benefits of tiered storage without the traditional cost and complexity. Data Progression obsoletes manual data classification and migration so IT departments can avoid the time consuming, company-wide classification efforts and the burden of purchasing, installing and managing multiple third-party hardware and software manual data movement products necessary with a typical tiered storage infrastructure.

- » Automatic tiering based on user-configurable classification policies including technology, performance, RAID level and redundancy
- » Fastest drives are automatically placed in a higher tier, slower drives in a lower tier
- » Auto-selects and stores the most active blocks on the highest-performance disk, while automatically placing less active blocks on lower-cost drives
- » Blocks of data move both up and down tiers of storage for optimal placement over time based on their frequency of access

Automated Tiered Storage cuts administrative time in half and reduces overall storage costs up to 74%.



Frequency of Access: *Data Progression automatically migrates data at the block-level between storage tiers based on frequency of access, continually optimizing the placement performance of data over time based on its usage.*

### Unrivalled Compatibility, Flexibility and Manageability

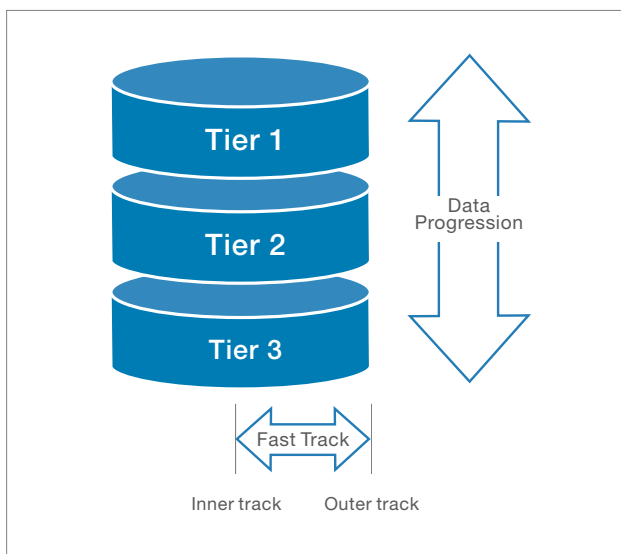
Data Progression features unparalleled compatibility and ease of use. Compatible with any OS, drive type or application, Data Progression even works seamlessly with large databases. The intuitive wizard-base interface allows rapid set-up and management, with the ability to make changes at any time. You also can easily understand where the majority of your data is stored and determine over time how much additional disk of each type to purchase.

- » Supports multiple operating systems without costly server agents
- » Unlimited transitions between RAID levels and different tiers of storage, unlimited volume size, unlimited number of disks
- » Easy to use interface includes Wizard-based management, data movement notification and remote and local web based monitoring
- » Change classification policies at any time without downtime

## Fast Track Automates Tiered Storage Within Every Drive

Built on the foundation of Data Progression, Fast Track dynamically places active data on the fastest, or outer edges, of each drive. This data movement is self-tuning – as individual blocks become more frequently used, they move out to a faster performing track. At the same time, infrequently used blocks are placed on the slowest, or inner, part of the drive. The combination of Fast Track and Data Progression creates the industry’s most advanced tiered storage solution, accelerates performance and reduces costs, allowing you use up to 30 percent fewer drives.

- › Automatically improve the performance of every drive in your system – from Fibre Channel down to SATA
- › Reduce the need for expensive, power-hungry drives; efficiently utilize lower-cost drives and cut power and cooling costs
- › Significantly reduce latency times
- › Eliminate wasted space from the fastest portion of the drive



*Advanced Storage Optimization: Unmatched combination delivers a big payoff in cost savings without sacrificing performance.*

## The Industry’s Only SAN with Automated Tiered Storage

Storage Center’s Data Progression is a complete hardware and software solution that fully automates tiered storage. Data Progression automatically classifies and migrates data to the optimum tier of storage based on usage allowing businesses to retain frequently accessed data on high performance storage and store infrequently accessed data on lower cost storage. By maintaining all data online and optimizing placement across multiple storage tiers, companies can purchase less storage overall and increase service levels.

## COMPELLENT

7625 Smetana Lane  
Eden Prairie, MN 55344

Tel: 877-715-3300  
Fax: 952-294-3333

[www.compellent.com](http://www.compellent.com)

## ABOUT COMPELLENT

Compellent is a leading provider of enterprise-class network storage solutions that are highly scalable, feature rich and designed to be easy to use and cost effective. Compellent's Storage Center is a Storage Area Network (SAN) that is designed to significantly lower storage and infrastructure capital expenditures, reduce the skill level and number of personnel required to manage information and enable continuous data availability and storage virtualization.

## DATA PROGRESSION SPECIFICATIONS

### STORAGE TIERS

Storage Tiers Defined By	Disk Drive Type, RAID Level, Rotational Speed
RAID Level Support	RAID 0, 5, and 10
Disk Drive Support	Fibre Channel, Solid State Drives, SATA
Automated Tiering	Yes

### DATA CLASSIFICATION AND MOVEMENT

Automated Data Movement	Yes, based on frequency of access
Automated Bi-directional Data Migration	Yes
Volumes Stored across Multiple RAID Levels and Tiers	Yes
Files Stored Across Multiple RAID Levels and Tiers	Yes
Intelligent Block-level Migration	Yes
Data Types Migrated	Writeable Data, Replay Data
Snapshots Migrated	Yes, automatic
File Level Support	Yes, with optional NAS Gateway
Additional Software Required for Data Classification and Movement	None

### SCALING

Maximum System Size	Unlimited
Maximum Volume Size	Unlimited
Maximum Number of Disks	Unlimited
Maximum Number of Transitions between RAID Levels and Tiers of Storage	Unlimited

### SERVER INTERFACE

Server Agents Required	No
Server Operating System Support	Microsoft Windows, Sun Solaris, HP-UX, Linux, IBM AIX, Novell NetWare, Apple, Tru64, VMware

© Copyright Compellent 2009. All rights reserved. DSDP063009